COMPUTER CRUSADERS in the REALM of...

TELECOMMUNICATIONS

WHERE THE WORLD IS AT YOUR FINGERTIPS!

TELETRON
MASTER TECHNICIAN OF TELECOMMUNICATING.
POWERS: USES HIS MULTI-WIRED HAIR TO CONNECT TEACHERS AND STUDENTS FROM AROUND THE WORLD WITH LIGHTENING SPEED.

COSMIC COMMUNICATOR
TELECOMMUNICATING WHIZ WHO HELPS PEOPLE SHARE AND UNDERSTAND DATA. POWERS: USES HER FINGERTIPS TO HELP TRANSFER INFORMATION.

DATANAUTS
EVIL WIRE-CROSSERS WHO LOVE TO FOUL UP CONNECTIONS AND INFORMATION.

CODE WORDS...

TELECOMMUNICATION:
Two or more computers "talking to each other" over long distances with the help of a modem, software, and a phoneline.

NETWORK:
A group of computers in different geographic areas "talk" to each other about common interests.

UPLOAD & DOWNLOAD
To send or receive a program or text file.

MODEM:
A device that changes computer code into telephone pulses which travel a phoneline and then are turned back into computer code again by the receiving modem.

E-MAIL:
(electronic mail) A "mailbox" in your name in a telecommunications network that stores private messages for you. You may send e-mail to others' mailboxes.

BBS:
(bulletin board system) An electronic message center in which people within a telecommunications network can publicly post and read messages.

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Teaching and Computers
"Computer Crusaders" Super Page Series
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SCHOLASTIC

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TEACHING GUIDE

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COMPUTER CRUSADERS SUPER PAGE SERIES

Each of the six Super Pages in this series features "Super Heroes" especially created to draw students' attention to an essential computer application. September's Super Page explored word processing, October emphasized graphics, while Nov./Dec. focused on data bases. Jan./Feb. explored desktop publishing and March/April focused on spreadsheets. May/June will now address telecommunications.

Each Super Page is backed with a teacher's guide full of management tips and a set of activity cards through which kids master computer applications skills and complete a series of curriculum-integrated computer tasks.

MANAGEMENT TIPS

SUPER HEROES BULLETIN BOARD

The Computer Crusaders Super Page can be a centerpiece of a year-long bulletin board display. Here's how to assemble the bulletin board..

1. Create a cut-out letter headline reading "Teletron Transmits Data to Cosmic Communicator."

2. Make a pocket chart for your students' Super Hero Passports.

3. Purchase or create a grid tagboard for the record-keeping chart.

4. Staple up May/June Super Page.

5. Mat open space with colored construction paper for displaying student work.

6. Photocopy, cut apart, and laminate several sets of the activity cards, below. Place these in a pocket on the board.

7. Experiment with your modem and software following setup instructions in manuals. (Note: If you have an interface card, the dip switches must be set for telecommunications.) Review expectations with students, then demonstrate steps to log on and off. It is helpful to provide a simple chart of this procedure near the computer for student reference.

Some software programs have telecommunication features. You may want to have students utilize a simulation program before actually going online. Set up data disks for students. Store software together in pockets on the bulletin board or near the computer.

STUDENT SUPER HERO IDENTITIES

If they have not already done so, have your students make up a super hero name and identity for themselves (including strengths and weaknesses) to use in conjunction with this last Super Page in the series. For this Super Page, the student super hero identity will be used for the Super Hero Passport and several activities.

SUPER HERO PASSPORT

to the Realm of Telecommunications

Earth Name: _____

Super Hero Name: _____

◯ **Super Simulator**

◯ **Bold Telecommunicator**

◯ **Project Technologist**

Signed,
Teletron

SUPER HERO PASSPORTS

Make a photocopy of the blank passport above for each student. Set up hardware and software for your telecommunications station sharing your expectations and rotation system with students. It may be helpful to have a proficiency check before students dial online. Introduce or review your chosen software programs, and telecommunication code words: modem, baud rate, BBS, sysop, log-on, bulletin, upload, and download. Demonstrate booting of telecommunication or simulation software. Most simulation software requires that you enter students' names previously into the program. Then it gives you a listing of passwords that you should keep on hand in case someone forgets his or her password. It is also helpful to lead a discussion about your expectations of appropriateness in wording messages that you send to friends, including the responsibility of not sharing your password with others.

There are three achievement levels for students to work toward. Level I denotes mastery of telecommunication code words and use of a simulation program. Level II is for students who are able to log-on to a BBS service or another computer, move through the menu, and log-off appropriately. Level III is for students who participate in a class telecommunication project. When students show mastery of these skills, mark or add a sticker to the achievement boxes listed on each passport.

GRID CHART RECORD-KEEPING

The grid chart will help you keep track of student progress on the activity cards. List the activity cards along one axis of the grid, and add your students' names on the perpendicular axis. Paste-on stars, stickers, or a simple felt pen mark can be added as students complete the computer activities.

COOPERATIVE LEARNING ACTIVITIES

Many of the activities below are designed for cooperative learning groups of two to five students. When forming these groups, make sure that each group has a representative mix of abilities, strengths, and weaknesses, and that each group member has a specific role to play (leader, recorder, typist, editor, telecommunicator.) Explain to students that their individual "success" in these activities depends on the total group effort. Talk with them about ways to cooperate, how to solve differences, and who makes the final decision if one is needed. Point out that only when a group activity is satisfactorily completed will each member get credit on the grid chart.

ACTIVITY CARD GUIDE

ACTIVITY 1: MAGIC MODEM

Introduce the poster, super heroes, and code words. Begin a discussion on telecommunicating. Ask your students what they think it means to telecommunicate. Explain to them that telecommunicating means that one computer is "speaking" to another computer. Next talk about the equipment that is necessary to telecommunicate—a computer, modem (interface card inside computer; modems can be internal or external; there are many different kinds), software to talk to the modem, and a phone line. Write the names of these tools on the board.

Now explain how a message is actually sent. Tell them that a person using telecommunicating software writes a message on his or her computer. The message is sent via the modem (which breaks the message in computer code into pulses) to a telephone line. The modem hooked up to the computer receiving the message changes the pulses back into computer code so the message can appear on the computer screen.

ACTIVITY 2: COSMIC COMPLIMENTS

Talk about what it feels like to give someone a compliment. Do your students like making others feel good? Talk about the different ways you can compliment a person without speaking. On the chalkboard or chart paper make a list of complimentary words or phrases. Next explain to students that they will be starting the "Cosmic Compliments Mail Service Program."

To make this program work, students must be taught how to use your mail-simulation program. Once they understand how it works, they can give Cosmic Compliments with or without signing their names to them.

ACTIVITY 3: CRUSADER TRIVIA

Divide the class into small groups. Have each group use Activity Card 3 to begin an online data base(or students can use an almanac) to search for the answers to the card's trivia questions. You may want to use a data base such as *Classmate* by Dialog Information Services. Using the first letter from each of these answers, they can spell out the answer to Teletron's riddle: TELECOMMUTER.

Trivia Answers: Taughannock, 850, Louisiana, Eli Whitney, Canada, oil, Mediterranean, Maine, umbrella, 3.43 lbs, elver, railroad.

ACTIVITY 4: TURNING PAGES

Hold an online book discussion with another classroom. Students may work as a class or sign up in groups to discuss certain book characters or chapters with their online peers.

Before beginning this online discussion, teachers should exchange information about their classes. For instance, teachers should exchange the reading and discussion level and abilities of their students. Next, a particular author or book must be decided on. Or, depending on the students, the decision could be left up to each student group.

ACTIVITY 5: LEND A HAND

Have a class discussion about ways your students can help their community. You may want to suggest some group ideas like repainting a playground, starting a recycling program, or cleaning up a local park.

Once your class decides on an idea, have them go online in search of another classroom that is also interested in volunteer work. They should discuss with this classroom their community service idea. What ideas or plans does the online classroom have? Have both classes keep each other posted on the progress of their service program. When both programs are complete, hold an online celebration for a job well done.

ACTIVITY 6: FAR-OUT FOODS

Divide your class into groups. Assign each group a state or country that you can telecommunicate with. Next, have your students make up a list of Far-Out Food questions to ask their online peers. For instance, what types of fruits and vegetables are common to the telecommunicated region? What do students eat for lunch? What's a common snack? Who prepares the daily meals? What kinds of foods are served on holidays or special occasions?

ACTIVITY 7: WEATHER WATCH

Telecommunicating is a perfect way to exchange data from science experiments. To do this, students should decide on a subject area and have experiments that both classrooms can duplicate. For example, classes can plant identical seeds and compare growth patterns depending upon the amount of light, fertilizer, and water the seedlings receive. Or they may share daily weather reports. For this exercise, students can record data with a hygrometer, barometer, thermometer, and rain gauge and telecommunicate the daily results. With either experiment, students should record and compare their final results with graphs.When the project is complete, have students exchange their graphs with their telecommunicating friends. Activity Card 7 discusses sharing weather reports.

ACTIVITY 8: COSMIC COINS

This activity asks students to research the monetary units of different countries. Students should speak to foreign students about the value of their money. Explain that everyone uses money, but its value varies greatly depending where you are. Have students follow the questions on the Activity Card to find out what an American dollar can buy in a foreign country. When all of the data is collected, have your students use graphs to record their findings. Once again, they should share their results with the classrooms they spoke to.

COPY & LAMINATE

ACTIVITY CARDS

ACTIVITY 1 — MAGIC MODEM

Cosmic Communicator's niece, Constance Comet, wants to send a friend in another country a message. Unfortunately, Constance doesn't understand how to telecommunicate. Lend Cosmic Communicator a hand, and help her explain to her niece how it's done.

- **First, draw a picture of two computers with the tools needed for telecommunicating.**
- **Next, label each tool with its proper name.You may want to use colored pencils or markers to label each tool.**
- **Finally, write a paragraph that explains how a message is sent from one computer to another computer. (It may be helpful to list and number each step in addition to explaining how it's done.)**

ACTIVITY 3 — CRUSADER TRIVIA

A riddle from Teletron:

Who goes to work everyday without ever leaving home? _ _ _ _ _ _ _ _ _ _ _ _ _ _

To figure it out, answer the trivia questions below. The first letter of each question will spell out the answer to his riddle. (Hint: An online data base or an almanac will be a big help.) Good luck!

TRIVIA QUESTIONS:

- **What is the highest waterfall in New York State?**
- **How many active volcanoes are there in the world?**
- **Which state is known as the Pelican State?**
- **Who invented the cotton gin?**
- **What country has a maple leaf on its flag?**
- **In 1986 the U.S. produced 8.67 million barrels of this a day.**
- **Where does the Nile River empty into?**
- **The Appalachian mountains run through this state.**
- **What goes up when the rain comes down?**
- **In 1984, how much garbage did the average person produce each day?**
- **What is a baby eel called?**
- **In 1869 a golden spike played a role in what type of transportation?**

ACTIVITY 5 — LEND-A-HAND

Cosmic Communicator and Teletron like to help others. As a class of super heroes, you will plan, organize, and telecommunicate a Lend-A-Hand activity with an on-line classroom.

1. Brainstorm a list of things you could do for your community.
2. Take one idea from your list and plan it out on paper.
3. Make a list of any materials or special help you may need. Make another list with the names of people that you will need to contact.
4. Speak to your classmates about their ideas.
5. Decide on one idea and exchange it with the classroom you are telecommunicating with.
6. As you work, keep in touch with your on-line classroom, swapping weekly progress reports.
7. When classrooms are finished with this Lend-A-Hand activity, hold an on-line celebration for a job well done.

ACTIVITY 7 — WEATHER WATCH

Did you ever wonder what the weather was like in another part of the country or world? Now you can conduct a long-distance weather update!

1. Check to see which parts of the country or world you are able to telecommunicate with.
2. Make a list of the different instruments that are available to you to measure the weather.
3. At the same time each day, take the instruments outside. Record the measurements they take.
4. Telecommunicate your data to the other classroom.
5. Record the data that you receive online.
6. After two weeks of exchanging data, arrange the information into graphs.
7. Compare the final graphs. What conclusions can you make?

Instruments for measuring weather:
barometer, hygrometer, rain gauge, thermometer

ACTIVITY 2 — COSMIC COMPLIMENTS

Cosmic Communicator likes to make others feel good. She knows that humans and Computer Crusaders feel good about themselves when they receive a compliment. Now it's your turn to make your classmates feel good about themselves every time they check their computer mail!

1. Follow instructions to log-on to your computer-mail program.
2. Type in a special Cosmic Compliment to a classmate. (If you want the compliment to be a surprise, don't sign your name.)
3. Send your message.
4. Sit back and watch for smiles and happy faces.

Sample Cosmic Compliment:
Your smile is like a ray of sunshine.

ACTIVITY 4 — PAGE TURNERS

Now's your chance to turn some pages with an on-line friend.

1. Read the chosen story selection at least twice.
2. Take notes on plot, setting, and characters.
3. Discuss the story with a classmate and make a list of questions that you would like to talk about with an online friend.
4. Sign up for the online story discussion.
5. Save a copy of the online discussion.
6. Write a review explaining what you learned or how your ideas changed by discussing a book with a telecommunicating friend.

ACTIVITY 6 — FAR OUT FOODS

Be a food detective! Find out what's on the tips of tongues in other parts of the world! Find out if peanut butter and bananas on whole wheat bread is a favorite of kids in Sweden; or if kids in China really do eat snake soup.

1. Make a list of common foods (apples, pancakes, peanut butter)
2. Make a list of things you eat for breakfast, lunch, dinner, and snacks.
3. Contact a school in another country or part of the U.S.
4. Share your list of foods with an online friend. Find out what some of his or her common foods and meals are.
5. Compare your list with his or hers. Are there many differences?
6. Exchange simple recipes.

As a follow-up, after you make the recipe, telecommunicate what you thought of it.

ACTIVITY 8 — COSMIC COINS

Money makes the world go 'round, but what's it called in Athens, Greece? How much does a comic book cost in Istanbul, Turkey?

Go on-line with as many different foreign schools as possible. Talk to them about their money. Find out what it looks like. Are there pictures on the coins? What color is the paper money? What are the names for the different values?

Next, find out what one American dollar is equal to in their currency. How much does it cost them to see a movie? Figure out how much their movie costs in American dollars.

Finally, compare the foreign currencies with American currencies on a graph. What do you notice about their values? Check in the newspaper for daily listings of foreign-currency values compared with the dollar.